

dti

Safety Valves



Slim Pump Safety Valve

Our unique Slim Pump Safety Valve (SPSV) is a compact downhole safety valve designed to be integrated with a cable-deployed electric submersible pump (ESP) or jet pump artificial lift string to provide a bi-directional pressure barrier.

The SPSV is pressure-actuated and opens by sensing the activation of the ESP or jet pump and automatically closes when the ESP or jet pump are switched off, eliminating the

need for control lines and dedicated surface control equipment. This also makes it fast and easy to install.

The API 14A qualified bi-directional metal-to-metal seals are pressure boosted and will failsafe close. The pressure drop across the open valve is minimal to maximise the pump efficiency. The design also enables the insert artificial lift completion to be pressure tested prior to pump switch on.

- Supports through-tubing retrofitted cable-deployed ESPs and jet pump systems
- Compact arrangement requiring no electrical or hydraulic power, cables or surface control equipment
- Patented pressure-actuated design - valve opens and closes with pump switch on
- Run with the ESP assembly, reducing rig time and improving safety
- API qualified bi-directional, pressure boosted sealing
- Low operating pressure, does not restrict ESP, pump operation or capability
- Prevents backspin of ESP
- Failsafe closed
- Metal to metal valve seat and poppet design for reliability
- Pump-through/equalisation capability

Size	Pressure Rating	Temp Rating	Length	Design Flow Rate	Flow Area (in ²)
2-11/64"	5,000 psi	150°C/302°F	48"		0.33
2-5/8"	5,000 psi	150°C/302°F	48"	2,000 bbl/day	0.78
3-3/16"	5,000 psi	150°C/302°F	54"	5,000 bbl/day	1.58

NB. Other sizes are available



Annular Safety Valve

The Annular Safety Valve (ASV) can be used in hydrogen and natural gas storage wells plus traditional gas lift and gas producer wells. It has been developed from our patented Slim Pump Safety Valve and offers a range of valuable features and benefits.

The ASV provides leak-tight sealing and the ability to open and close in both directions at full working pressure (to 5,000 psi), allowing for both injection and production.

- Bi-directional sealing at full working pressure. Well pressure or surface test pressure boosts valve shut
- A large annular flow area facilitates fast, high-volume injection and production operations
- Metal to metal valve seat and poppet design for reliability
- Hybrid high-performance elastomer and non-elastomeric packing seals for reliability

A large flow area also supports high volume operations.

The ASV incorporates a control line pass-thru and is deployed into the nipple profile of a Tubing Retrievable Surface Controlled Sub Surface Safety Valve (TRSCSSSV) to enable separate hydraulic control of both valves from surface. It is surface testable and allows quick reinstatement of a safety valve in the event of failure.

- Control line bypass to allow one nipple to operate both the ASV and a TRSCSSSV
- Valve does not need to be equalised to be functioned open
- Once deployed, the Gas Storage Annular Safety Valve is failsafe shut, and is unaffected by well pressure or tubing pressure

Part Number	Inside Diameter	Standard Connection	Pressure Rating	Temp. Rating	Min. Compression Yield (LBS)	Flow Area (in²)
SP-ASV625	3.7"	Customer Defined	5000 psi	90-150°C	200,000	5.0

NB. Other sizes are available





Technology innovation with quality and reliability at the core.

DTI is a specialist in innovative downhole technology for the global energy industry. We design and manufacture tools to solve current and emerging challenges for the oil and gas, gas storage, CCUS, hydrogen storage and geothermal production sectors.

WWW.DTI.UK.COM | +44 1202 690001 | ENQUIRE@DTI.UK.COM

UK - enquire@dti.uk.com

Europe - eur@dti.uk.com

North America - nam@dti.uk.com

Latin America - lam@dti.uk.com

North Africa - afn@dti.uk.com

Sub-Saharan Africa - ssa@dti.uk.com

Middle East - me@dti.uk.com

Asia Pacific - apac@dti.uk.com